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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,664	09/17/2003	I-Ru Liu	BHT - 3111 - 362	2473

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EXAMINER
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HU, RUI MENG

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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01/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/663,664

Applicant(s)

LIU, I-RU

Examiner

RuiMeng Hu

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on 10/25/2007 have been fully considered, and upon further consideration, a new ground(s) of rejection is made in view of different interpretation of the previously applied references.

Applicant argues that Telewski does not suggest: (claim 1) a signal generator for generating a signal; an attenuating device coupled to the signal generator for attenuating the signal and generating an attenuated signal to simulate an attenuation resulting from a transmission of the signal; (claim 13) generating a signal utilizing a signal generator; transmitting the attenuated signal by an antenna, wherein the antenna is located in a shielded anechoic chamber with a reflector, and the reflector reflects the attenuated signal to generate a reflected signal; receiving the attenuated signal and the reflected signal by a communication device located within the shielded anechoic chamber.

The examiner respectfully submits that Telewski does teach (claim 1) a signal generator for generating a signal (figure 3, processor 120 and transmitter 108 for generating a transmit signal, thus processor 120 and transmitter 108 can be considered as a signal generator); an attenuating device coupled to the signal generator for attenuating the signal and generating an attenuated signal to simulate an attenuation resulting from a transmission of the signal (figure 3, attenuator 112A for attenuating the transmit signal, since the system (shown in figure 3) is used for simulation purpose, every component of the system is considered as a model, thus attenuator 112A

simulates an attenuation resulting from a transmission of the generated signal); (claim 13) generating a signal utilizing a signal generator (figure 3, processor 120, transmitter 108); transmitting the attenuated signal by an antenna (antenna 104), wherein the antenna is located in a shielded anechoic chamber (waveguide chamber 102) with a reflector (reflector 142 in figure 4C), and the reflector reflects the attenuated signal to generate a reflected signal (reflector 142 in figure 4C); receiving the attenuated signal and the reflected signal by a communication device (figure 3, the signals received by receiver 10) located within the shielded anechoic chamber 102.

### ***Response to Amendment***

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 13** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the turntable" in the last two lines of claim 13.

There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 1-11 and 13-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Telewski (US Patent 6021315)** in view of **Kildal (US Pub. 2004/0183547)**.

Consider **claim 1**, Telewski discloses a system for wireless communication simulation comprising (Abstract): a signal generator (figure 3, central computer system 134, processor 120 and transmitter 108 for generating a transmit signal) for generating a signal; an attenuating device (figure 3, attenuator 112A, column 5 lines 5-43) coupled to the signal generator for attenuating the signal and generating an attenuated signal to simulate an attenuation resulting from a transmission of the signal (figure 3, attenuator 112A simulates attenuation of the transmission signal); and a shielded anechoic chamber (figure 3, waveguide chamber 102) comprising: an antenna (figure 3, antenna 104) coupled to the attenuating device for transmitting the attenuated signal; and a reflector (figure 4C, column 8 lines 30-44, reflector 142) for reflecting the attenuated signal to generate a reflected signal.

Telewski fails to specifically disclose the system is for multi-path simulation, wherein the antenna can be shifted to simulate a phase shift between a direct path and a main indirect path of the system.

In the same field of endeavor, Kildal discloses a system includes an anechoic chamber for multi-path simulation wherein a number of simulation modes are provided for increasing simulation efficiency, the antenna can be shifted to simulate a phase shift between a direct path and a main indirect path of the system (paragraphs 4-6, 13-17, figures 1-7).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Kildal into the art of Telewski as to include the simulation modes to simulate multi-path in wireless communication for increasing simulation efficiency.

Consider **claim 2 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the shielded anechoic chamber further comprises: a communication device for receiving the attenuated signal and the reflected signal (Telewski, figure 3, wireless communication device 10).

Consider **claim 3 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the signal generator is a vector signal generator (Telewski, column 1 lines 10-23, figure 3).

Consider **claim 4 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the signal generator is a Golden Sample of the communication device (Telewski, figure 3).

Consider **claim 5 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the attenuating device is a step attenuator (Telewski, attenuator 112A is adjustable).

Consider **claim 6 as applied to claim 1**, Telewski as modified by Kildal discloses wherein the antenna is a dipole antenna (Kildal, paragraph 18).

Consider **claim 7 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the antenna is deployed between the reflector and the communication device (Telewski, figure 5A, antenna 104, reflector 142, wireless communication device 10).

Consider **claim 8 as applied to claim 1**, Telewski as modified by Kildal discloses further comprising: a control unit coupled to the signal generator and the attenuating device for controlling a generation of the signal and adjusting an attenuating range of the attenuating device (Telewski, figure 3, processor 120).

Consider **claim 9 as applied to claim 2**, Telewski as modified by Kildal discloses further comprising: a control unit coupled to the communication device for acquiring signal properties received by the communication device (Telewski, figure 3, processor 120 connected with wireless device 10).

Consider **claim 10 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the shielded anechoic chamber further comprises: a turntable for setting the communication device and changing a reception azimuth of the communication device (Kildal, figures 2-7, the communication device 9 is placed at different levels).

Consider **claim 11 as applied to claim 2**, Telewski as modified by Kildal discloses wherein the shielded anechoic chamber further comprises: a movable platform for setting and shifting the antenna (Kildal, figures 2-7, antenna 3 is placed at different locations).

Consider **claim 13**, Telewski discloses a method for wireless communication simulation comprising: generating a signal utilizing a signal generator (figure 3, central computer system 134, processor 120 and transmitter 108 for generating a transmit signal); attenuating (figure 3, attenuator 112A) the signal to generate an attenuated signal for simulating an attenuation resulting from a transmission of the signal (figure 3, attenuator 112A simulates attenuation of the transmission signal); transmitting the attenuated signal by an antenna, wherein the antenna is located in a shielded anechoic chamber (figure 3, chamber 102) with a reflector (figure 4C, reflector 142), and the reflector reflects the attenuated signal to generate a reflected signal; receiving the attenuated signal and the reflected signal by a communication device (figure 3, device 10) located within the shielded anechoic chamber.

Telewski fails to specifically disclose the system is for multi-path simulation.

In the same field of endeavor, Kildal discloses a system for multi-path simulation wherein a number of simulation modes are provided for increasing simulation efficiency (paragraphs 4-6,13-17, figures 1-7), shifting the antenna to simulate a phase shift between a direct transmission path and a main indirect transmission path of the signal (simulating in different modes including primary direction of propagation and multi-path



propagations); rotating the turntable to change a reception azimuth of the communication device (Kildal, figure 6, rotating table 11).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Kildal into the art of Telewski as to include the simulation modes to simulate multi-path in wireless communication for increasing simulation efficiency.

Consider **claim 14 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the signal is generated by a vector signal generator (Telewski, column 1 lines 10-23, figure 3).

Consider **claim 15 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the signal is generated by a Golden Sample of the communication device (Telewski, figure 3).

Consider **claim 16 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the signal is attenuated by a step attenuator (Telewski, attenuator 112A is adjustable).

Consider **claim 17 as applied to claim 13**, Telewski as modified by Kildal discloses wherein the antenna is deployed between the reflector and the communication device (Telewski, figure 5A, antenna 104, reflector 142, wireless communication device 10).

**Claims 12 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Telewski (US Patent 6021315)** as modified by **Kildal (US 2004/0183547)** in view of **Leather et al. (US 2006/0055592)**.

Consider **claim 12 as applied to claim 2, claim 20 as applied to claim 13**, Telewski as modified by Kildal fails to disclose wherein the communication device is deployed in a quiet zone of the shielded anechoic chamber.

In the same field of endeavor, Leather et al. disclose wherein the communication device is deployed in a quiet zone of the shielded anechoic chamber (paragraph 63, figure 3, test zone or quiet zone).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Leather et al. into the art of Telewski as modified by Kildal as to include the quiet zone for increasing simulation efficiency.

### ***Conclusion***

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105.

Application/Control Number:  
10/663,664  
Art Unit: 2618

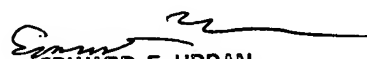
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The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m.,  
EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RuiMeng Hu  
R.H./rh  
January 18, 2008

  
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SUPERVISORY PATENT EXAMINER  
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